

ICS 77.120.30

CCS H 13



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 3884.7-2025

Replacing GB/T 3884.7-2012

**Methods for chemical analysis of copper concentrates - Part 7:
Determination of lead and zinc contents - Na₂EDTA titration
method**

铜精矿化学分析方法 第7部分：铅和锌含量的测定 Na₂EDTA滴定法

Issued on: August 29, 2025

Implemented on: March 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents". Drafting.

This document is Part 7 of GB/T 3884, "Chemical Analysis Methods for Copper Concentrates". GB/T 3884 has the following parts published.

- Part 1: Determination of Copper Content by Iodometric and Electrolytic Methods;
- Part 2: Determination of Gold and Silver Content by Flame Atomic Absorption Spectrometry and Fire Assay;
- Part 3: Determination of Sulfur Content by Gravimetric and Combustion Titration Methods;
- Part 4: Determination of Lead, Zinc, Cadmium, Nickel and Magnesium Oxide Content by Flame Atomic Absorption Spectrometry;
- Part 5: Determination of Fluorine Content using Ion-Selective Electrode Method;
- Part 7: Determination of Lead and Zinc Content by Na₂EDTA Titration;
- Part 9: Determination of Arsenic, Antimony and Bismuth Content;
- Part 11: Determination of Mercury Content by Cold Atomic Absorption Spectrometry;
- Part 12: Determination of Fluorine and Chlorine Content by Ion Chromatography and Potentiometric Titration;
- Part 15: Determination of total iron and iron(III) oxide content;
- Part 16: Determination of Silica Content by Potassium Fluorosilicate Titration and Gravimetric Method;
- Part 17: Determination of Alumina Content by Chromium Azure S Micellar Solubilization

Spectrophotometric Method and Precipitation Separation - Fluoride Replacement-Na₂EDTA titration method;

- Part 18.Determination of the content of arsenic, antimony, bismuth, lead, zinc, nickel, cadmium, cobalt, chromium, aluminum oxide, magnesium oxide, and calcium oxide, including inductive coupling, etc.

Particle atomic emission spectrometry;

- Part 19.Determination of Thallium Content by Inductively Coupled Plasma Mass Spectrometry;

- Part 20.Determination of Mercury Content - Direct Method with Solid Injection;

- Part 21.Determination of the content of copper, sulfur, lead, zinc, iron, aluminum, calcium, magnesium and manganese by wavelength dispersive X-ray fluorescence spectrometry.

This document replaces GB/T 3884.7-2012 "Chemical Analysis Methods for Copper Concentrates - Part 7: Determination of Lead Content - Na₂EDTA Titration".

The method, GB/T 3884.8-2012 "Chemical Analysis Methods for Copper Concentrates Part 8: Determination of Zinc Content - Na₂EDTA Titration Method", and Compared with GB/T 3884.7-2012, the main changes in technical content are as follows, apart from structural adjustments and editorial modifications. as follows.

a) The scope of application of the standard has been changed; the applicable object has been changed from "copper concentrate" to "copper concentrate and copper slag concentrate"; the scope of lead determination has been changed from...

The range for zinc determination has been changed from ">5.00%~13.00%" to ">5.00%~20.00%"; the range for zinc determination has also been changed from ">1.00%~13.00%".

For ">2.50%~20.00%" (see Chapter 1, Chapter 1 of GB/T 3884.7-2012 and Chapter 1 of GB/T 3884.8-2012). Chapter 1);

b) The principle has been changed; the determination method has been changed from separate determination of lead and zinc to continuous determination of lead and zinc (see Chapter 4, GB/T 3884.7-).

Chapter 2 of GB/T 3884.8-2012 and Chapter 2 of GB/T 3884.8-2012);

c) The sample weight was changed from 0.2g~0.5g for lead analysis and 0.25g for zinc analysis to 0.30g (see [reference]).

7.1, 5.1 of GB/T 3884.7-2012 and 5.1 of GB/T 3884.8-2012);

d) The sample pretreatment method has been changed (see 7.4.1, 5.4.1 and 5.4.2 of GB/T 3884.7-2012 and GB/T 3884.8-2012). (5.4.1)

e) The precision data has been changed (see Chapter 9, Chapter 7 of GB/T 3884.7-2012 and Chapter 7 of GB/T 3884.8-2012). Chapter 7).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document is under the jurisdiction of the National Technical Committee on Standardization of Nonferrous Metals (SAC/TC243).

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Limited Liability Company, Shandong Hengbang Smelting Co., Ltd., Henan Zhongyuan Gold Smelting Plant Co., Ltd., Guangdong Academy of Sciences Industrial Analysis Testing Center, Kunming Metallurgical Research Institute Co., Ltd., Shandong Zhongjin Lingnan Copper Industry Co., Ltd., Northern Copper Co., Ltd., China Inspection and Quarantine Corporation Verification and Certification Group Guangxi Co., Ltd., Zhejiang Huayou Cobalt Co., Ltd., Beijing Electronic Science and Technology Vocational College, and Yunnan Hualian Zinc & Indium Co., Ltd. Limited Company.

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The release history of this document and the document it replaces is as follows.

- First published in 1983 as GB/T 3884.8-1983, first revised in 2000 as GB/T 3884.7-2000, and in 2012...

The second revision is GB/T 3884.7-2012;

- This is the third revision, and it incorporates GB/T 3884.8-2012 "Chemical Analysis Methods for Copper Concentrates - Part 8: Determination of Zinc Content" The content of "Na₂EDTA Titration Method" (GB/T 3884.8-2012) is as follows. [List of documents replaced and previous versions follows].

GB/T 3884.13-1983, GB/T 3884.8-2000).

Introduction

Copper concentrate and copper slag concentrate are raw materials for copper smelting. Standards for chemical composition analysis methods of copper concentrate play a crucial role in the non-ferrous metals industry's standard system.

This series of methods plays a vital role in the production, trade, and application of copper concentrate, providing technical support for the high-quality development of China's non-ferrous metals industry.

The purpose of GB/T 3884, "Chemical Analysis Methods for Copper Concentrates," is to describe the composition of different chemical elements such as copper, gold, silver, lead, and zinc in copper concentrates.

Determination methods. With the continuous increase in copper demand, the copper concentrate trade is also constantly growing, indicating a very promising future for the copper industry. To meet...

The industry's demand for copper concentrate and copper slag concentrate production, trade, and resource recycling necessitates improved reliability and comparability of testing results, and faster processing.

Accurate determination of the content of various elements in copper concentrate and copper slag concentrate is of great significance; based on extensive research into enterprise needs, [the following is discussed/conducted].

GB/T 3884 "Chemical Analysis Methods for Copper Concentrates" (21 parts in total) has been integrated and revised.

The integrated GB/T 3884 "Chemical Analysis Methods for Copper Concentrates" is proposed to consist of 15 parts.

- Part 1: Determination of Copper Content by Iodometric and Electrolytic Methods;
- Part 2: Determination of Gold and Silver Content by Flame Atomic Absorption Spectrometry and Fire Assay;
- Part 3: Determination of Sulfur Content by Gravimetric and Combustion Titration Methods;
- Part 4: Determination of Lead, Zinc, Cadmium, Nickel and Magnesium Oxide Content by Flame Atomic Absorption Spectrometry;